



SmartWave™
AC Power Source

MODELS
SW 10500
SW 15750
SW 21000

Parallel Installation Manual

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September 21, 2004

Document No. M162002-01 Rev D

Elgar One-Year Warranty

Elgar Electronics Corporation (hereinafter referred to as Elgar) warrants its products to be free from defects in material and workmanship. This warranty is effective for one year from the date of shipment of the product to the original purchaser. Liability of Elgar under this warranty shall exist provided that:

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- Elgar is promptly notified of defects by the Buyer and that notification occurs within the warranty period;
- the Buyer receives a Return Material Authorization (RMA) number from Elgar's Repair Department prior to the return of the product to Elgar for repair, phone 800-73-ELGAR (800-733-5427), ext. 2295;
- the Buyer returns the defective product in the original, or equivalent, shipping container;
- if, upon examination of such product by Elgar it is disclosed that, in fact, a defect in materials and/or workmanship does exist, that the defect in the product was not caused by improper conditions, misuse, or negligence; and,
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This warranty is exclusive and in lieu of all other warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness of the product to a particular purpose. Elgar, its agents, or representatives shall in no circumstance be liable for any direct, indirect, special, penal, or consequential loss or damage of any nature resulting from the malfunction of the product. Remedies under this warranty are expressly limited to repair or replacement of the product.

CONDITIONS OF WARRANTY

- To return a defective product, contact an Elgar representative or the Elgar factory for an RMA number. Unauthorized returns will not be accepted and will be returned at the shipper's expense.
- For Elgar products found to be defective within thirty days of receipt by the original purchaser, Elgar will absorb all ground freight charges for the repair. Products found defective within the warranty period, but beyond the initial thirty-day period, should be returned prepaid to Elgar for repair. Elgar will repair the unit and return it by ground freight pre-paid.
- Normal warranty service is performed at Elgar during the weekday hours of 7:30 am to 4:30 pm Pacific time. Warranty repair work requested to be accomplished outside of normal working hours will be subject to Elgar non-warranty service rates.
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- Equipment purchased in the United States carries only a United States warranty for which repair must be accomplished at the Elgar factory.

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SAFETY NOTICE

Before applying power to the system, verify that the SW Series unit is configured properly for the user's particular application.



WARNING!

HAZARDOUS VOLTAGES IN EXCESS OF 280 VRMS, 600V PEAK MAY BE PRESENT WHEN COVERS ARE REMOVED. QUALIFIED PERSONNEL MUST USE EXTREME CAUTION WHEN SERVICING THIS EQUIPMENT. CIRCUIT BOARDS, TEST POINTS, AND OUTPUT VOLTAGES MAY BE FLOATING ABOVE (BELOW) CHASSIS GROUND.

Installation and service must be performed by qualified personnel who are aware of dealing with attendant hazards. This includes such simple tasks as fuse verification.

Ensure that the AC power line ground is connected properly to the SW Series unit input connector or chassis. Similarly, other power ground lines including those to application and maintenance equipment must be grounded properly for both personnel and equipment safety.

Always ensure that facility AC input power is de-energized prior to connecting or disconnecting the input/output power cables.



During normal operation, the operator does not have access to hazardous voltages within the chassis. However, depending on the user's application configuration, HIGH VOLTAGES HAZARDOUS TO HUMAN SAFETY may be generated normally on the output terminals. Ensure that the output power lines are labeled properly as to the safety hazards and that any inadvertent contact with hazardous voltages is eliminated. To guard against risk of electrical shock during open cover checks, do not touch any portion of the electrical circuits. Even when the power is off, capacitors can retain an electrical charge. Use safety glasses during open cover checks to avoid personal injury by any sudden failure of a component.

Due to filtering, the unit has high leakage current to the chassis. Therefore, it is essential to operate this unit with a safety ground.

Some circuits are live even with the front panel switch turned off. Service, fuse verification, and connection of wiring to the chassis must be accomplished at least five minutes after power has been removed via external means; all circuits and/or terminals to be touched must be safety grounded to the chassis.

After the unit has been operating for some time, the metal near the rear of the unit may be hot enough to cause injury. Let the unit cool before handling.

Qualified service personnel need to be aware that some heat sinks are not at ground, but at high potential.



CAUTION!

380V 3-PHASE INPUT POWER SYSTEMS (4 WIRE) MUST HAVE A NEUTRAL CONNECTION. (FOR UNITS BUILT BEFORE JUNE 2004: THE NEUTRAL MUST NOT BE SWITCHED. APPLY NEUTRAL BEFORE PHASE VOLTAGE OR SERIOUS DAMAGE TO THE EQUIPMENT MAY RESULT.)

For safe operation, it is required that output power neutral be connected to chassis ground. The SW system is shipped with two braided wires on the PDU connected from output power neutral to chassis ground.

SAFETY SYMBOLS



CAUTION
Risk of Electrical Shock



CAUTION
Refer to Accompanying Documents



OFF (Supply)



STANDBY (Supply)



ON (Supply)

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SECTION 1 – GENERAL DESCRIPTION

1.1 INTRODUCTION

The Elgar Models SW 10500, SW 15750, and SW 21000 provide the same high quality power source as the SW 5250A, but at higher power levels. These systems are comprised of one master chassis, one or more slave chassis, a power distribution (PDU) chassis, and an optional input power line filter (required for CE mark).

This parallel installation manual is to be used in conjunction with the operating manual for the SmartWave Switching Amplifier Model SW 5250A, referred to as the main manual.

The following specifications for the SW 10500, SW 15750, and SW 21000 are identical to the SW 5250A unless otherwise noted.

1.2 INPUT SPECIFICATIONS

Input Power Ranges: Factory configured 187 to 264 VRMS, 3 phase L-L (3 wire), or 342 to 457 VRMS, 3 phase L-L (4 wire). A chassis ground is also required for safety.

115/230 VRMS selectable, single phase, for power distribution unit (PDU).

Input Power Factor: .6 with USA rectifier, .35 with international rectifier, .99 with input PFC option.

Input Frequency Range: 47 to 63 Hz.

Efficiency: 70%, minimum, at full load.

Ride Through: 3 mSEC, minimum, 10 mSEC minimum, with PFC option.

1.3 OUTPUT SPECIFICATIONS–NORMAL OPERATION MODE

Power Factor of Load: 0 lagging to 0 leading

AC or DC Output Voltage: 0 to 156 VRMS L-N range 1; 0 to 312 VRMS L-N range 2.

Output Current Per Phase SW 10500: 26A to 135V in 156V range, derates linearly to 22.4A @ 156V; 13A to 270V in 312V range, derates linearly to 11.2A @ 312V.

Output Current Per Phase SW 15750: 39A to 135V in 156V range, derates linearly to 33.6A @ 156V; 19.5A to 270V in 312V range, derates linearly to 16.8A @ 312V.

Output Current Per Phase SW 21000: 52A to 135V in 156V range, derates linearly to 44.8A @ 156V; 26A to 270V in 312V range, derates linearly to 22.4A @ 312V.

Crest Factor: 4.0 (peak output current to RMS output current)

Output Frequency: DC or 40 Hz to 5 KHz.

Output Power Per Phase: SW10500: 3500VA; SW15750: 5250VA; SW21000: 7000VA.

Total Harmonic Distortion (Full Linear Load or No Load): 0.25% maximum, 40 to 100 Hz; 0.5% maximum to 500 Hz; and 1% maximum to 1 KHz plus 1%/KHz to 5 KHz.

AC Noise Level: >60 dB RMS below full output (sine wave, 40 Hz - 500 Hz).

Amplitude Stability with Remote Sense: $\pm 0.1\%$ of full scale over 24 hours at constant line, load, and temperature.

Load Regulation: $\pm 0.025\%$ of full scale voltage for a full resistive load to no load, above 1 KHz, add $\pm 0.015\%$ KHz.

Line Regulation (DC, or 40 Hz to 5 KHz): $\pm 0.025\%$ of full scale for a $\pm 10\%$ input line change.

Voltage Accuracy: $\pm 0.1\%$ of range. Above 1 KHz, add 0.2% KHz. Add $\pm 0.1\%$ of full scale for AC PLUS DC mode. Valid for 5 to 156 VRMS and 10 to 312 VRMS at 25°C (77°F), sine, sense leads connected.

Voltage Resolution: 0.05% of full scale.

Frequency Resolution: 0.01 Hz 40 to 99.99 Hz
0.05 Hz 100 Hz to 999.9 Hz
0.5 Hz 1000 Hz to 5000 Hz

Frequency Accuracy: $\pm 0.01\%$ at 25°C $\pm 0.001\%/^{\circ}\text{C}$.

Phase Accuracy, Phase to Phase Balanced Linear Resistive Load:
 $\pm 1^{\circ}$, 40 Hz to 1 KHz plus $\pm 1^{\circ}/\text{KHz}$ above 1 KHz.

Phase Angle Resolution: 0.1° .

Remote Output Voltage Sense: 5 VRMS total lead drop, maximum. Sense leads must be connected at frequency >500 Hz.

Output Impedance: SW 10500: 1 phase; SW 15750 or SW 21000: 1 or 3 phase mode meets requirements of IEC-1000-3-2, Annex A, supply source. Valid for equipment classes A, B, C and D.

1.4 MEASUREMENT SYSTEM

SYSTEM	RMS CURRENT	PEAK CURRENT TO 135/270	PEAK CURRENT TO 156/312	POWER	VA
SW 10500 1 PHASE					
156 Range	0-90A Plus Sign	0-360A Peak	0-310A Peak	0-10800W	0-10800VA
312 Range	0-45A Plus Sign	0-180A Peak	0-155A Peak	0-10800W	0-10800VA
SW 10500 3 PHASE					
156 Range	0-30A Plus Sign	0-120A Peak	0-103.4A Peak	0-3600W	0-3600VA
312 Range	0-15A Plus Sign	0-60A Peak	0-51.7A Peak	0-3600W	0-3600VA
SW 15750 1 PHASE					
156 Range	0-135A Plus Sign	0-540A Peak	0-465.2A Peak	0-16200W	0-16200VA
312 Range	0-67.5A Plus Sign	0-270A Peak	0-232.6A Peak	0-16200W	0-16200VA
SW 15750 3 PHASE					
156 Range	0-45A Plus Sign	0-180A Peak	0-155A Peak	0-5400W	0-5400VA
312 Range	0-22.5A Plus Sign	0-90A Peak	0-77.5A Peak	0-5400W	0-5400VA
SW 21000 1 PHASE					
156 Range	0-180A Plus Sign	0-720A Peak	0-620A Peak	0-21600W	0-21600VA
312 Range	0-90A Plus Sign	0-360A Peak	0-310A Peak	0-21600W	0-21600VA
SW 21000 3 PHASE					
156 Range	0-60A Plus Sign	0-240A Peak	0-206.8A Peak	0-7200W	0-7200VA
312 Range	0-30A Plus Sign	0-120A Peak	0-103.4A Peak	0-7200W	0-7200VA

TABLE 1-1 MAXIMUM FULL SCALE MEASUREMENT RANGES

NOTE: Accuracies are the same as for the SW 5250A.

1.5 PROTECTION AND SAFETY

1.5.1 PROGRAMMABLE CURRENT LIMIT/CONSTANT CURRENT RANGES

SW 10500: X2 SW 5250 spec Currents doubled (i.e. 6.5A becomes 13A)

SW 15750: X3 SW 5250 spec Currents tripled (i.e. 6.5A becomes 19.5A)

SW 21000: X4 SW 5250 spec Currents quadrupled (i.e. 6.5A becomes 26A)

1.6 PHYSICAL SPECIFICATIONS

UNIT	HEIGHT	WIDTH	DEPTH	WEIGHT
SW 5250M	8.75" (222 mm)	19" (483 mm)	23.5" (597 mm)	126.5 lbs (57.2 Kg)
SW 5250S	8.75" (222 mm)	19" (483 mm)	23.5" (597 mm)	123.0 lbs (55.8 Kg)
SW PDU	3.50" (89 mm)	19" (483 mm)	18" (457 mm)	22.5 lbs (10.2 Kg)
SW Filter	3.50" (89 mm)	19" (483 mm)	18" (457 mm)	28.1 lbs (12.7 Kg)

TABLE 1-2 PHYSICAL SPECIFICATIONS

1.6.1 COOLING

Air is drawn in from the sides and top of the SW 5250 chassis, and is exhausted from the rear of the chassis. 200 CFM per chassis is required for specified operation. The temperature of ambient (inlet) air should not exceed 113° F (45° C).

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

SECTION 2 – INSTALLATION

2.1 INTRODUCTION

The Elgar Model SW 10500, SW 15750, or SW 21000 has been fully calibrated and tested prior to shipment. The system is designed to be mounted in a standard 19" RETMA cabinet.



WARNING! The SW 5250S/M weighs over 126 lbs. (57.2 kg). A minimum two-person lift is required!



WARNING! Hazardous voltages are present when operating this equipment. Please read the Safety Notice at the beginning of this manual prior to installation, operation, or maintenance.

2.2 PRE-INSTALLATION INSPECTION

For unpacking and pre-installation inspection, please refer to the main manual.

2.3 AIR INTAKE AND EXHAUST

The air intakes are located at the top and side panels of the chassis; exhaust air is vented at the rear. Do not block the side air intakes. The top air intakes improve ventilation. Special separation is not required when stacking instruments if the recommended slides are used. However, a 1.75" vertical spacer is required between instruments when using bottom mounting. The intake air temperature must not exceed 113° F (45° C).



WARNING! Avoid blocking the instrument air intakes or exhaust. Do not allow hot exhaust air to recirculate to inlets. Each SW 5250 requires ≥ 200 CFM inlet air, not to exceed 113° F (45° C).

It is important that the heat produced is properly ventilated to the exterior of the cabinet. Special baffling to control air flow may be required to prevent hot exhaust air from being drawn into the air intakes.

In systems that include an optional cabinet, be careful not to block the air intakes and exhaust for the cabinet and chassis. Air intakes are located at the front or side cabinet panels; exhaust air is vented from the top or rear cabinet panels, depending on the cabinet configuration.

2.4 INSTALLATION

Refer to Figures 2-1 through 2-7 for information on outline and mounting dimensions. If using slides, locate the secondary mounting rail behind the front mounting rail (see Figure 2-1). Use the slides and mounting kits recommended below in Table 2-1.

24" DEEP CABINET	ELGAR PN	ACCURIDE PN	JONATHAN PN	ZERO-TRAK PN
SW 5250 Slides (pr)	105-307-16	C-3307-16D	—	—
SW 5250 Brackets (ea)	105-551-01	—	SPO-551	—
SW PDU Slides (pr)	1066836-20	—	—	C-300S-20
SW Filter Slides (pr)	1066836-20	—	—	C-300S-20
26" DEEP CABINET				
SW 5250 Slides (pr)	105-307-16	C-3307-16D	—	—
SW 5250 Brackets (ea)	105-551-01	—	SPO-551	—
SW PDU Slides (pr)	1066836-22	—	—	C-300S-22
SW Filter Slides (pr)	1066836-22	—	—	C-300S-22
24" DEEP CABINET	ELGAR PN	DESCRIPTION		
SW 10500	A162001-01	Slide Kit (includes all parts listed above)		
SW 10500 CE	A162001-02	Slide Kit (includes all parts listed above)		
SW 15750	A162001-03	Slide Kit (includes all parts listed above)		
SW 15750 CE	A162001-04	Slide Kit (includes all parts listed above)		
SW 21000	A162001-11	Slide Kit (includes all parts listed above)		
SW 21000 CE	A162001-12	Slide Kit (includes all parts listed above)		
26" DEEP CABINET				
SW 10500	A162001-05	Slide Kit (includes all parts listed above)		
SW 10500 CE	A162001-06	Slide Kit (includes all parts listed above)		
SW 15750	A162001-07	Slide Kit (includes all parts listed above)		

SW 15750 CE	A162001-08	Slide Kit (includes all parts listed above)
SW 21000	A162001-09	Slide Kit (includes all parts listed above)
SW 21000 CE	A162001-10	Slide Kit (includes all parts listed above)

TABLE 2-1 SLIDES AND MOUNTING BRACKETS**2.5 INPUT POWER REQUIREMENTS**

Input power is connected to the SW 5250M (master) and the SW 5250S (slave[s]) via the rear panel connectors. The input power requirements for each SW 5250M and SW 5250S are specified on the rear panel cover of each unit; refer to Table 2-7 in the main manual. The overall system input power requirements for the SW 10500, the SW 15750, and the SW 21000 are detailed below in Table 2-2.

PDU power is connected via a standard IEC power cord connector. Ensure the voltage selector switch (115/230) is configured to the required input voltage.

SYSTEM DESCRIPTION			NUMBER OF PHASES	FREQUENCY RANGE	INPUT VOLTAGE PHASE/PHASE	PHASE CURRENT (MAX)	NEUTRAL CURRENT (MAX)	RECOMMENDED CIRCUIT BREAKER RATING (MAX)
SW 10500	PFC	USA	3	47-63 Hz	187-264 VAC	50A	Not required	75A
	PFC	INTL	3 and neutral	47-63 Hz	342-457 VAC	26A	26A	40A
	RECT	USA	3	47-63 Hz	187-264 VAC	78A	Not required	100A
	RECT	INTL	3 and neutral	47-63 Hz	342-457 VAC	78A	136A	100A
SW 15750	PFC	USA	3	47-63 Hz	187-264 VAC	75A	Not required	100A
	PFC	INTL	3 and neutral	47-63 Hz	342-457 VAC	39A	39A	50A
	RECT	USA	3	47-63 Hz	187-264 VAC	117A	Not required	150A
	RECT	INTL	3 and neutral	47-63 Hz	342-457 VAC	117A	204A	150A
SW 21000	PFC	USA	3	47-63 Hz	187-264 VAC	100A	Not required	125A
	PFC	INTL	3 and neutral	47-63 Hz	342-457 VAC	52A	52A	75A
	RECT	USA	3	47-63 Hz	187-264 VAC	156A	Not required	200A
	RECT	INTL	3 and	47-63 Hz	342-457	156A	272A	200A

			neutral		VAC			
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TABLE 2-2 3-PHASE INPUT POWER REQUIREMENTS

WARNING! An overcurrent protection device (i.e., circuit breaker) is required in the building installation. The circuit breaker should be rated for continuous current as required by the SW system (see Table 2-2). Installation should comply with local safety standards.

A device to disconnect the SW 10500, SW 15750, or SW 21000 from the energy supply source is also required. This switch or circuit breaker must be close to the SW system, within easy reach of the operator, and clearly labeled as the disconnection device for the SW system.

2.5.1 OPTIONAL SW INPUT FILTER WIRING

Prior to mounting the optional input power line filter (required for CE), pre-wire the input power to the filter (line side) and pre-wire the filter (load side) to the SW 5250M (master) and SW 5250S (slave[s]). Input power cable assemblies 5161398-01 are provided to interface from the filter (load side) to the SW 5250M and SW 5250S chassis inputs. Refer to Figures 2-8 through 2-16.

Insert the cable assembly end labeled FILTER LOAD SIDE into the filter rear panel cutout, then secure the cable clamp with the nut. Connect the ring lugs to the filter load side as indicated by the filter and wire labels. Connect the chassis ground wire to the internal chassis ground stud. Insert the cable assembly end labeled SW 5250 INPUT into the master and slave(s) rear panel cutouts, then secure the cable clamp with the nut. Connect the cable assembly to the SW 5250 input as indicated by the rear panel and wire labels. Connect the chassis ground wire with ring lug to the chassis ground stud.

An overall shield is provided on each cable from the filter to the SW master or slave(s). Cable clamps are used to connect this shield at both ends to the chassis.

2.6 OUTPUT CONNECTIONS TO THE LOAD

Output power is located at the rear of the PDU. Refer to Figures 2-8 through 2-16. For output connections to the load, refer to Section 2.9 in the main manual. For selection of wire gauge, refer to Section 2.10 of the main manual.

The PDU output power terminal block is labeled A, B, C, NG, NG, NA, NB, NC. The three phase power outputs are A, B, and C. The five output neutral terminals are all at the same potential. However, for EMI purposes, output neutral terminals NA, NB, and NC correspond respectively to the A, B, and C power outputs. The two NG terminals are for the neutral to chassis ground.

The output power leads should be shielded and the shield connected to the PDU chassis using the supplied cable ties to secure the cables and shields to the PDU terminal block chassis housing. Route the leads out of the system cabinet using the shortest distance within the cabinet. Once the leads are connected, reinstall the output power terminal block cover.

Remote sense leads should be used if program frequency is above 500Hz or for improved performance. Connection of remote sense leads is between the load (or PDU output terminal block) and the master (SW 5250M) sense terminal block. Refer to Figures 2-11 through 2-16.

The output sense leads should be shielded and the shield connected to the master chassis. Route the leads out of the system cabinet using the shortest distance within the cabinet.

2.6.1 GROUNDING

For safe operation, output power neutral must be connected to chassis ground. The SW system is shipped with two braided wires on the PDU connected from output power neutral terminals labeled NG to chassis ground. If the neutral exceeds 20V away from the chassis potential, the unit will shut down.



SAFETY GROUND WARNING!

Output neutral, located on the rear of the PDU, should be tied to chassis (SAFETY) ground somewhere in the system. The PDU is shipped with neutral tied to chassis on the PDU.

2.6.2 CHASSIS GROUNDING

The master, slave(s), PDU, and optional input filter chassis should be grounded to the cabinet mounting rails using the chassis ground stud provided on each chassis.

2.7 INTERCONNECT OUTPUT POWER CABLES

Output power is routed from the master and slave(s) chassis to the PDU through 5161366-01 cable assemblies. Refer to Figures 2-8 through 2-16. Insert the cable clamp, which is attached to the braided shield, into the master and slave(s) rear panel cutout and secure with the nut. Connect the spade lugs to the output power terminal block as indicated by the wire labeling (A, NA, B, NB, C, Nc). The 8-pin power connector at the other end of the cable assembly is connected to its respective receptacle on the PDU. Use the supplied cable ties to secure the cables to the PDU terminal block chassis housing. The cable ties should be secured to the braided shield to ensure a good connection between the shield and the chassis.

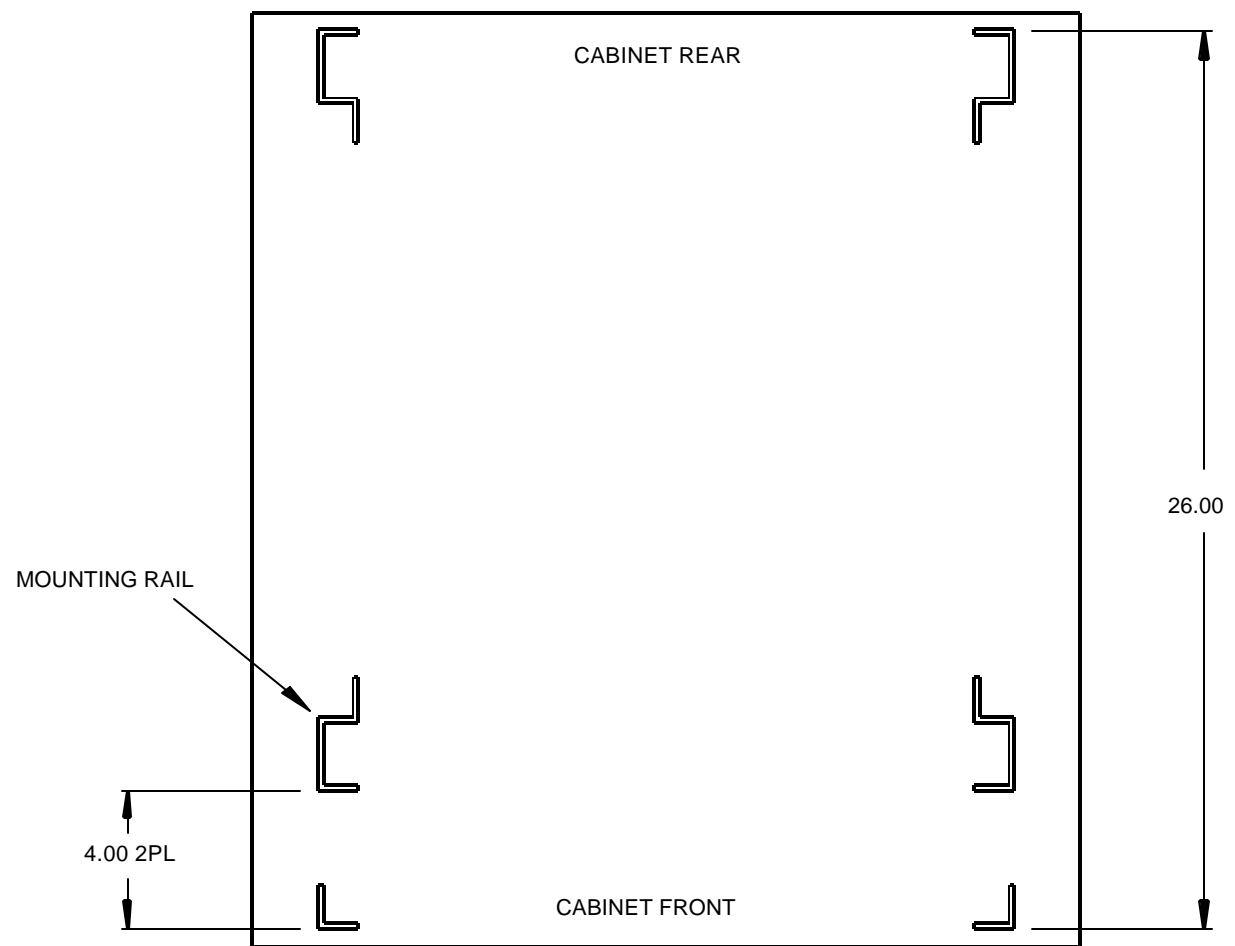
2.8 SLAVE INTERFACE CABLES

The 37-pin D-subminiature slave interface cables (5161408-01) should be routed from the SLAVE port on the master and slave(s) chassis to the PDU. Refer to Figures 2-8 through 2-10. Use jack screws to secure the cables to the rear panels.

NOTE: Sequencing for the interconnect power cables and slave interface cables must be observed during installation. Figures 2-2, 2-3, and 2-8 through 2-10 detail the master, slave1, slave2, and slave3 chassis. This ordering sequence must coincide with the PDU ports labeled MASTER, SLAVE1, SLAVE2, and SLAVE3.

2.9 SW 5250M REAR PANEL PORTS

The SYNC OUT and CLOCK/LOCK are BNC connectors which require coaxial shielded cable. The IEEE 488.2, DFI, and EXT IN ports require shielded cables and jack screws to secure the shields to the SW 5250M chassis. The cables should be routed out of the system cabinet using the shortest distance within the cabinet.

**FIGURE 2-1 CABINET TOP VIEW**

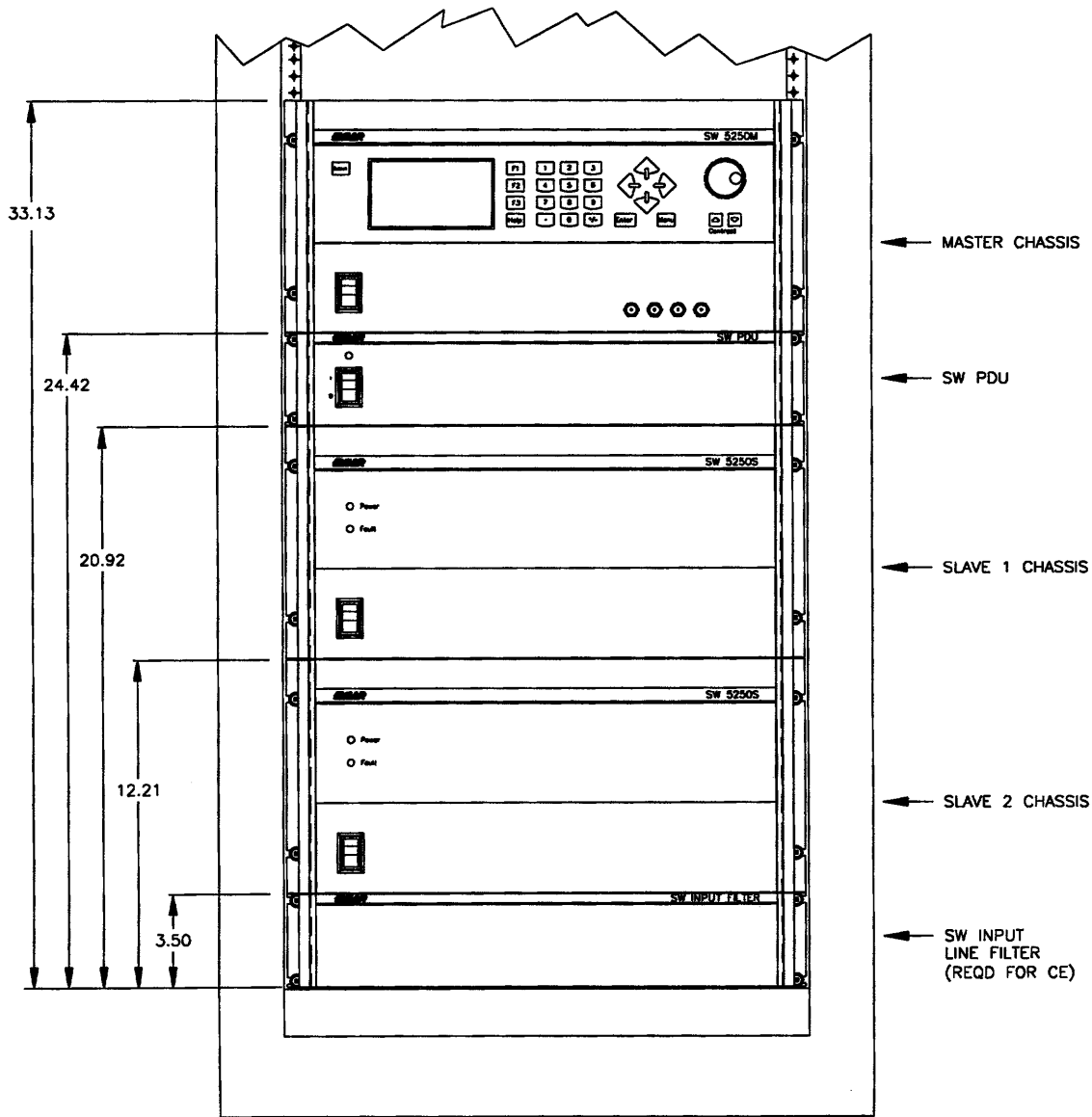


FIGURE 2-2 CABINET FRONT VIEW, SW 15750 (Slide Mounting)

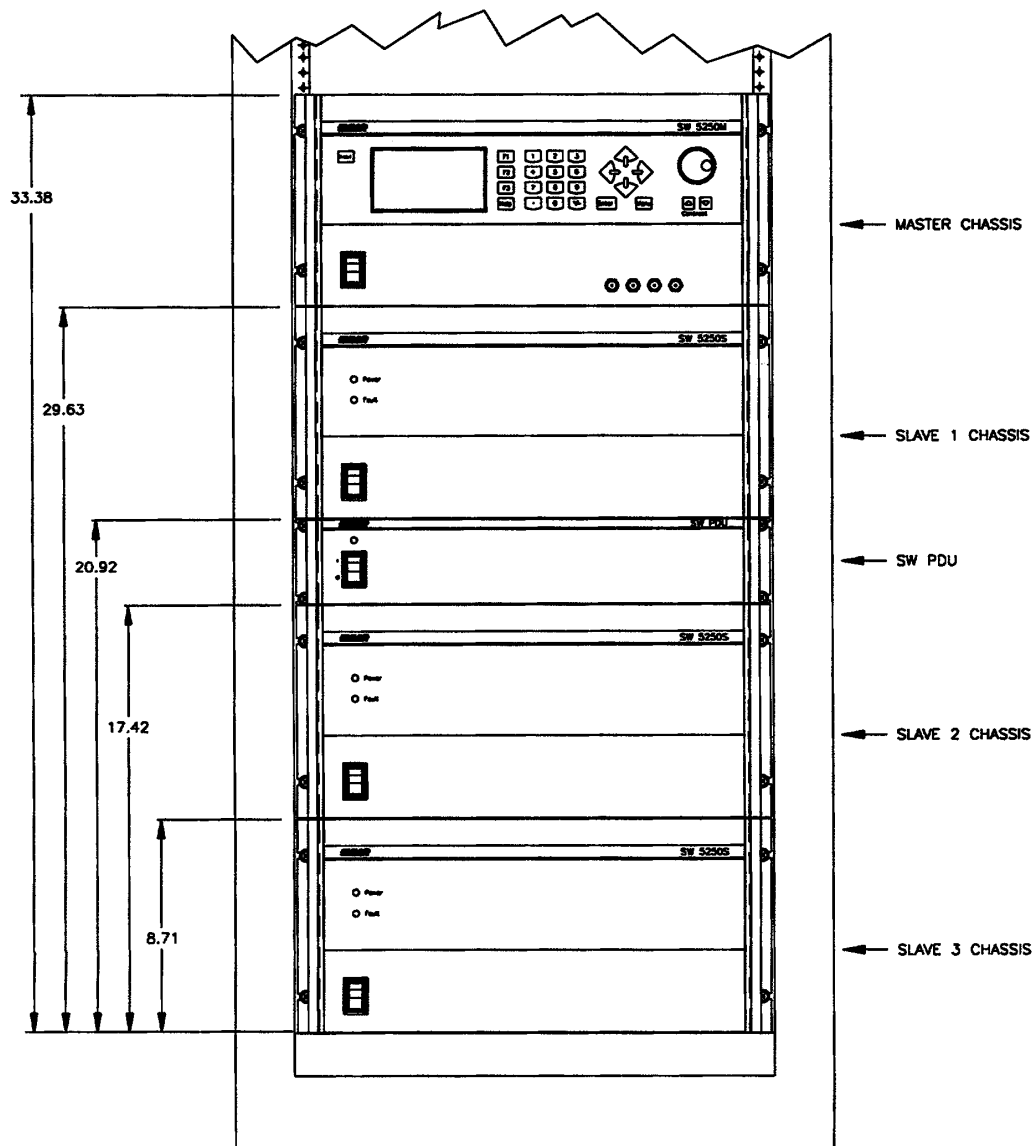


FIGURE 2-3 CABINET FRONT VIEW, SW 21000 (Slide Mounting)

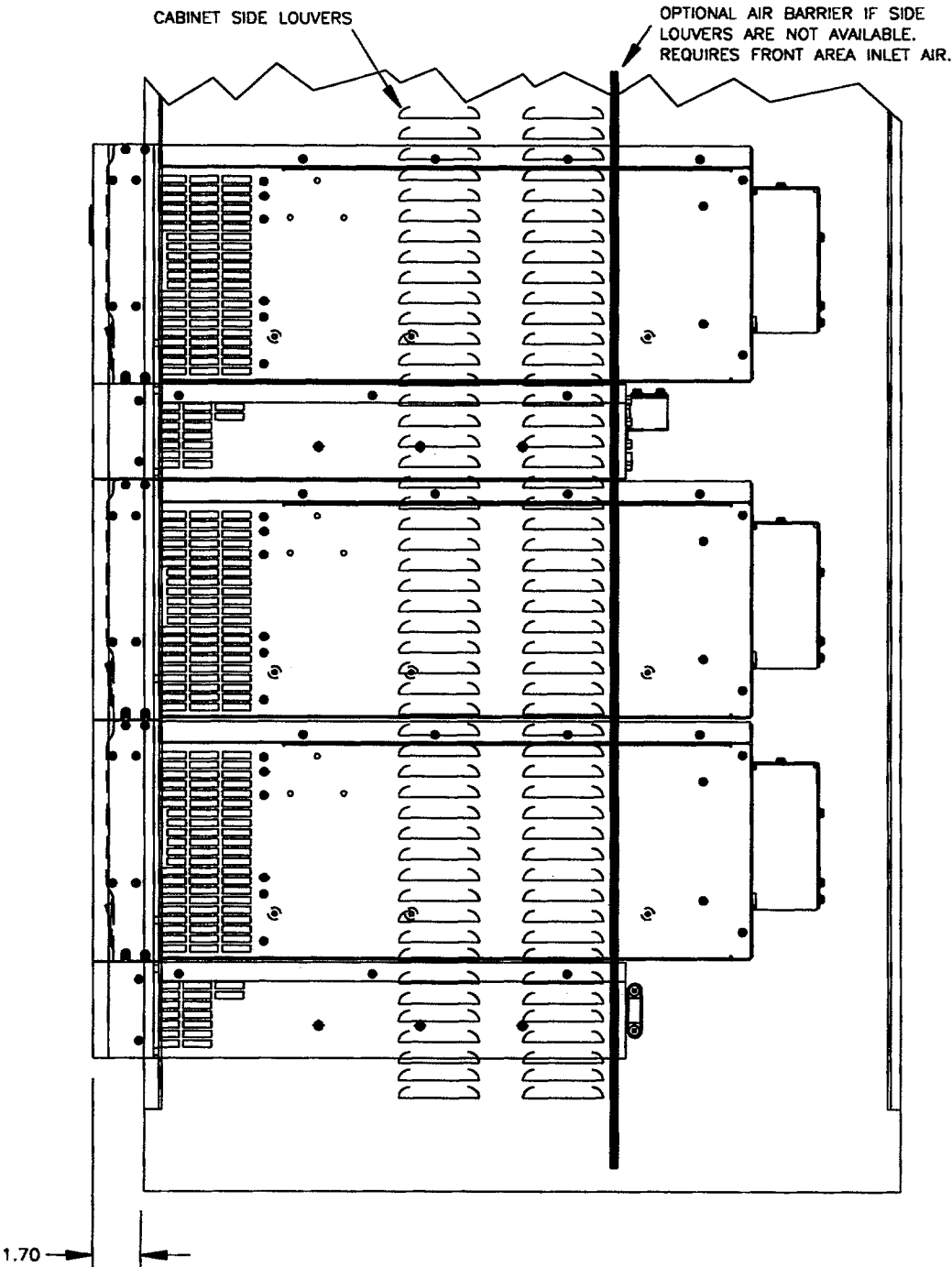


FIGURE 2-4 CABINET SIDE VIEW, SW 15750 (Slide Mounting)

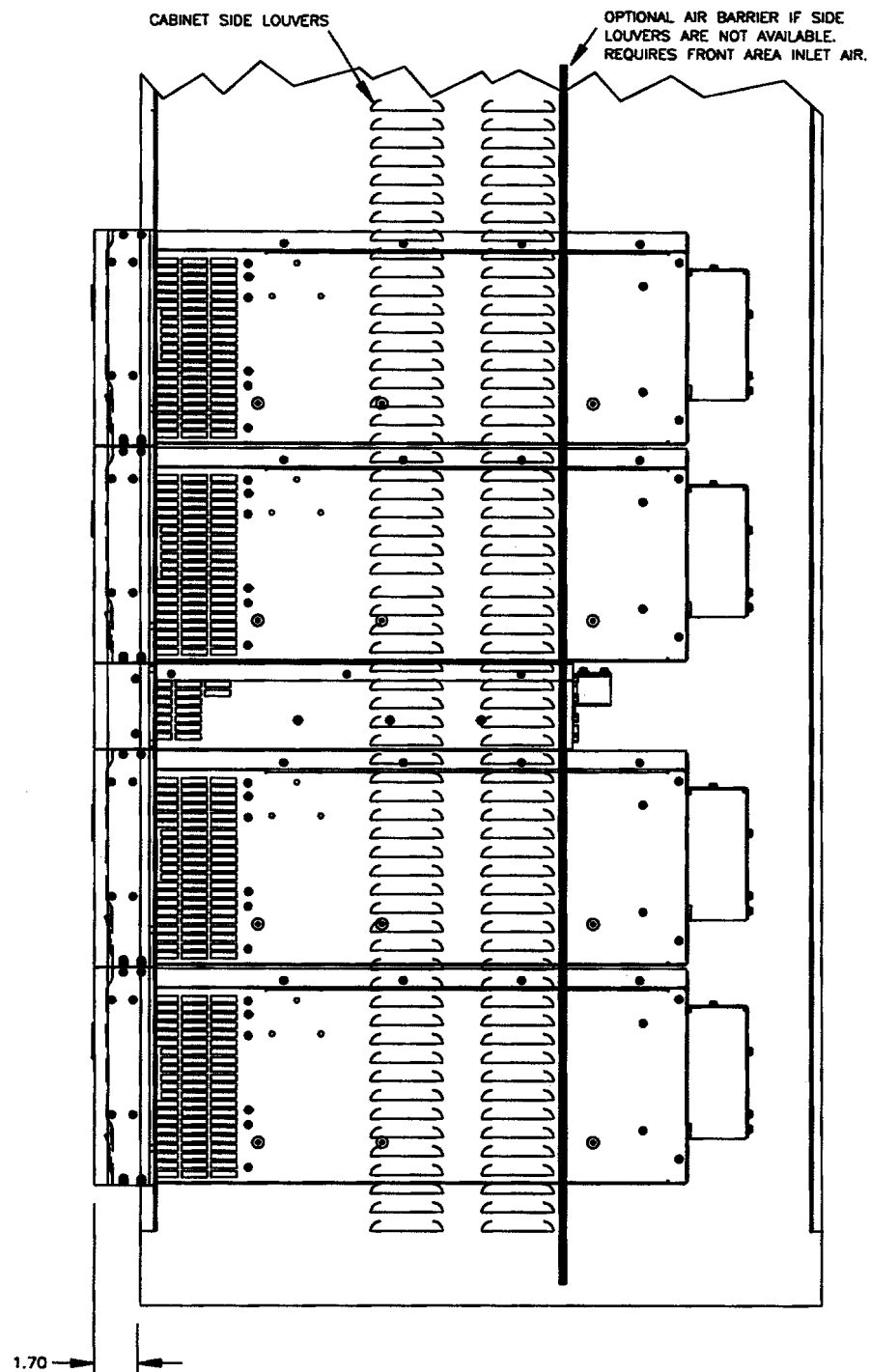


FIGURE 2-5 CABINET SIDE VIEW, SW 21000 (Slide Mounting)

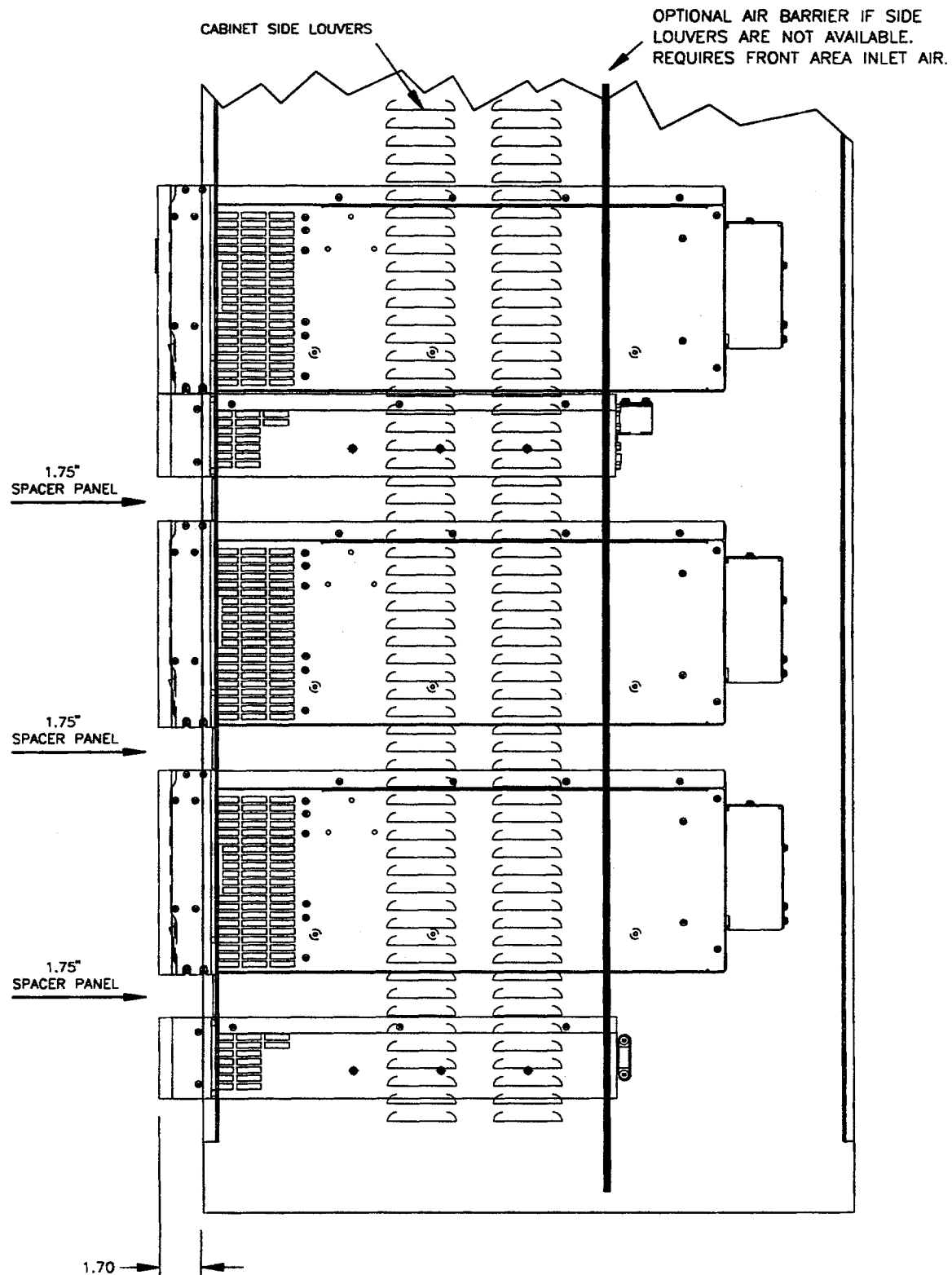


FIGURE 2-6 CABINET SIDE VIEW, SW 15750 ("L" Bracket Mounting)

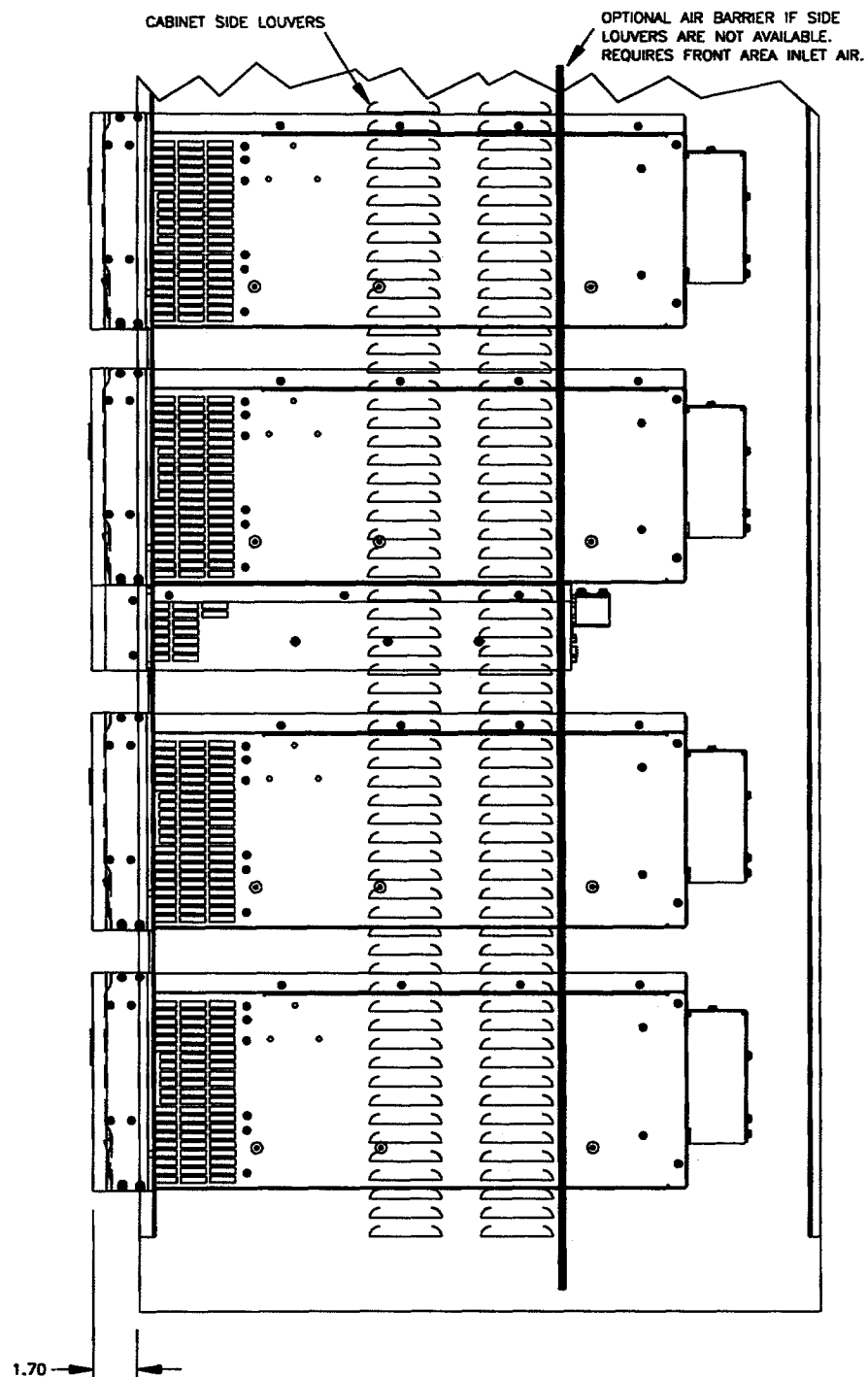


FIGURE 2-7 CABINET SIDE VIEW, SW 21000 (“L” Bracket Mounting)

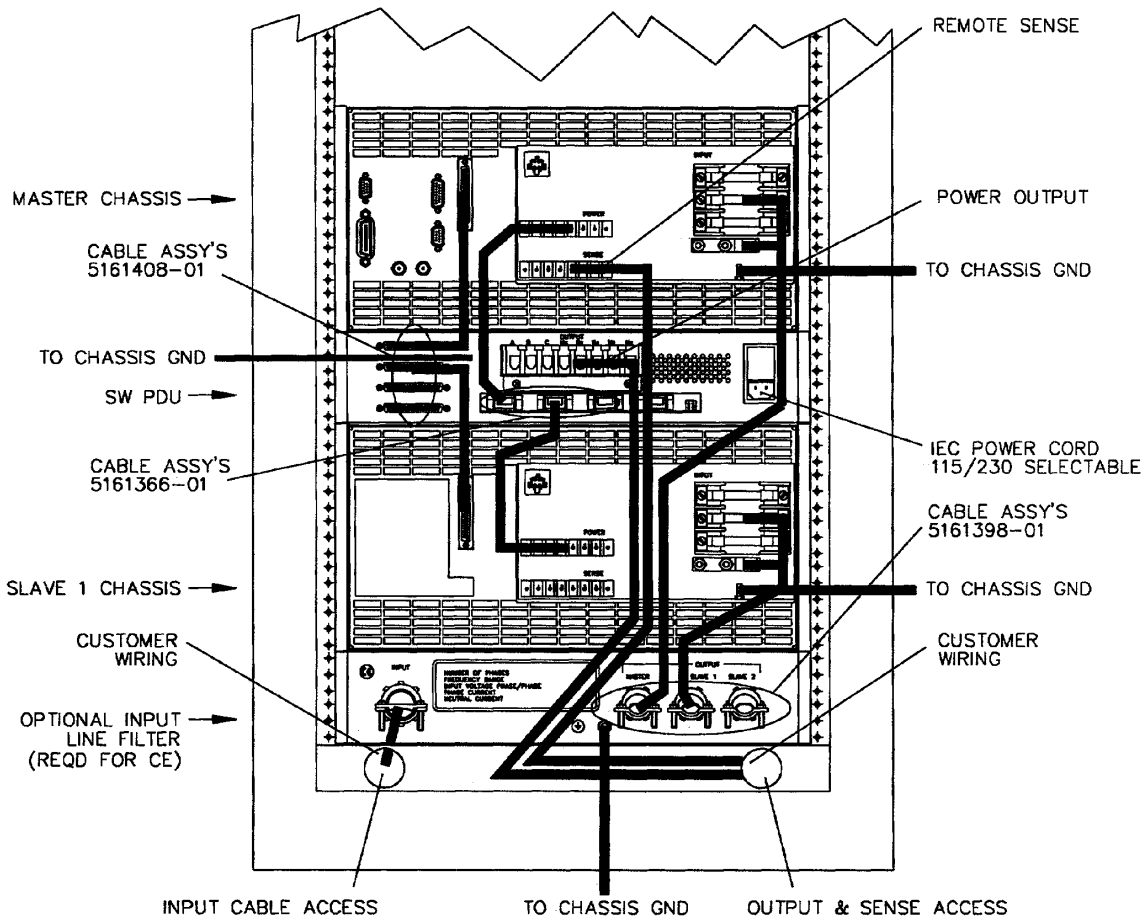


FIGURE 2-8 CABINET REAR VIEW, SW 10500 (Slide Mounting)

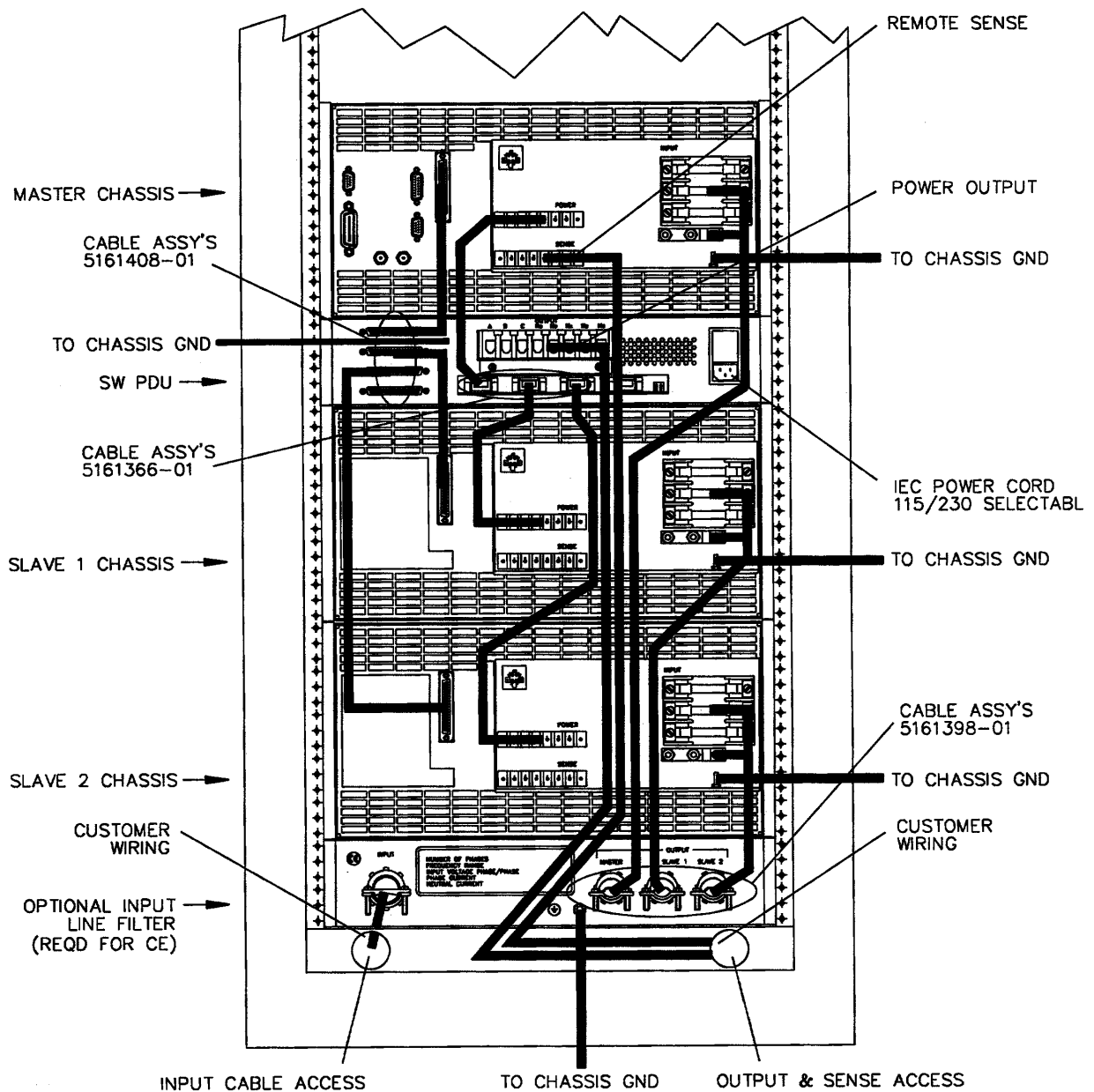
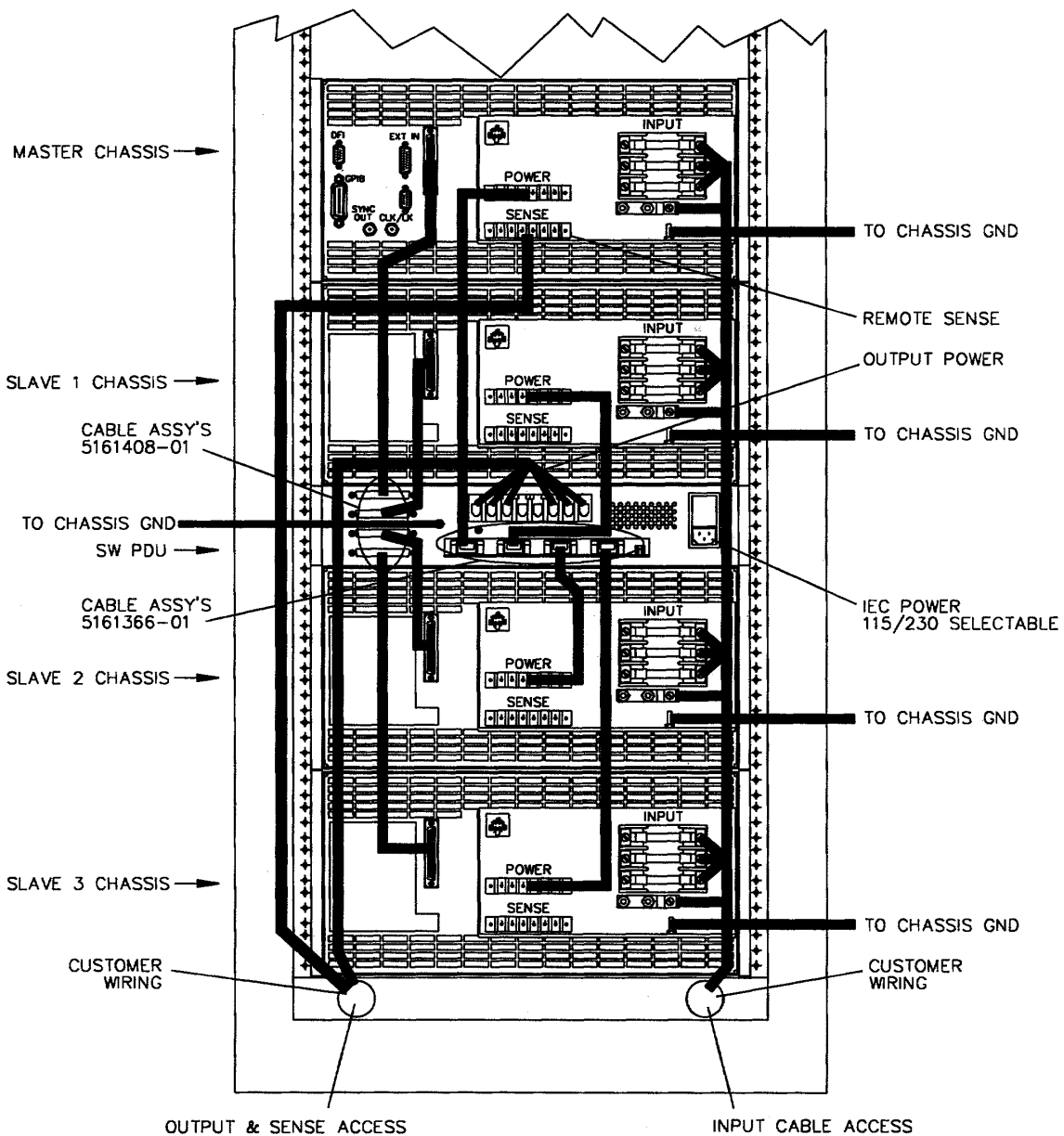
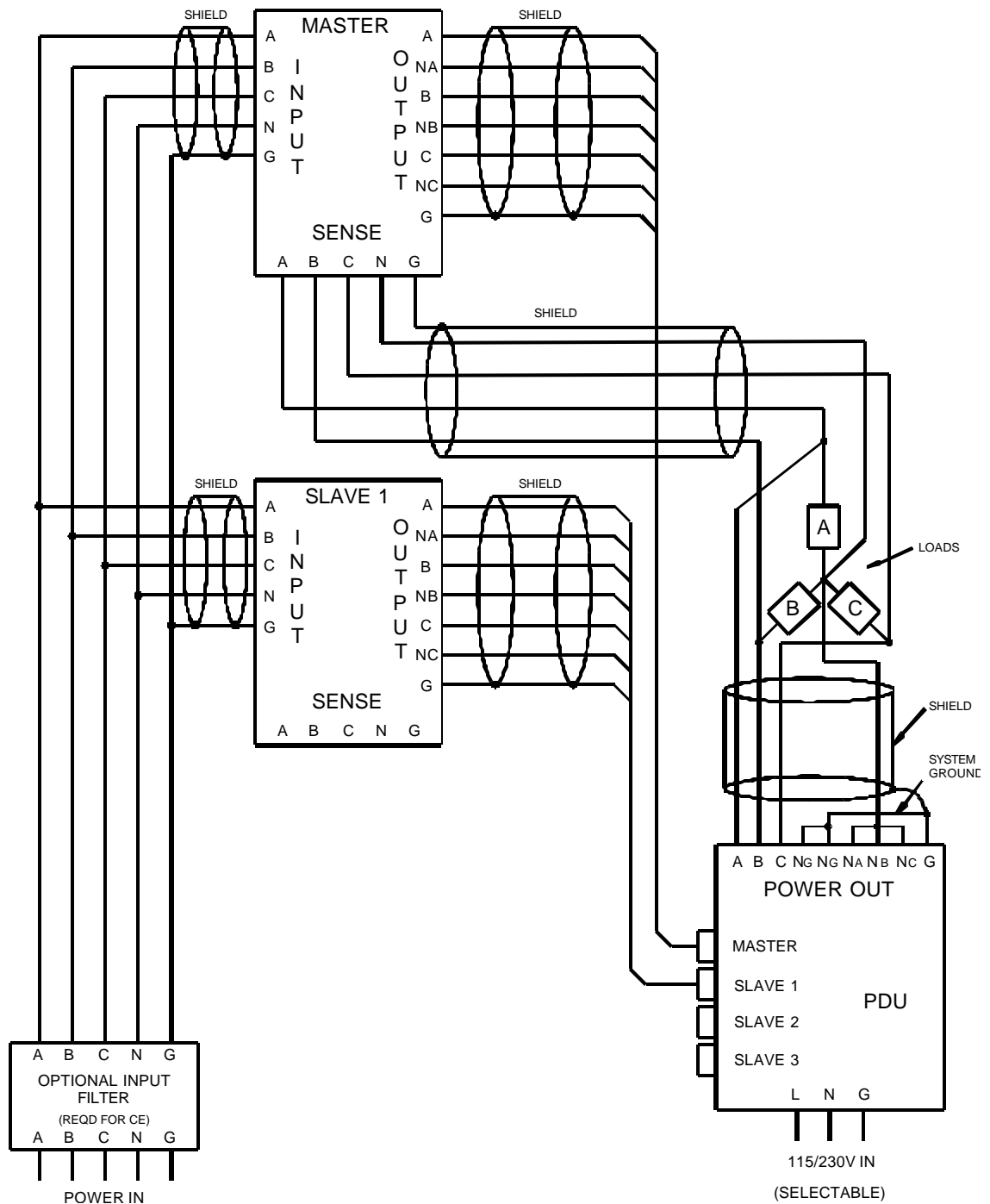


FIGURE 2-9 CABINET REAR VIEW, SW 15750 (Slide Mounting)



**FIGURE 2-10 CABINET REAR VIEW, SW 21000
(Slide Mounting, No Input Line Filter)**

**FIGURE 2-11 WIRING FOR SW 10500: 3-PHASE LOAD**

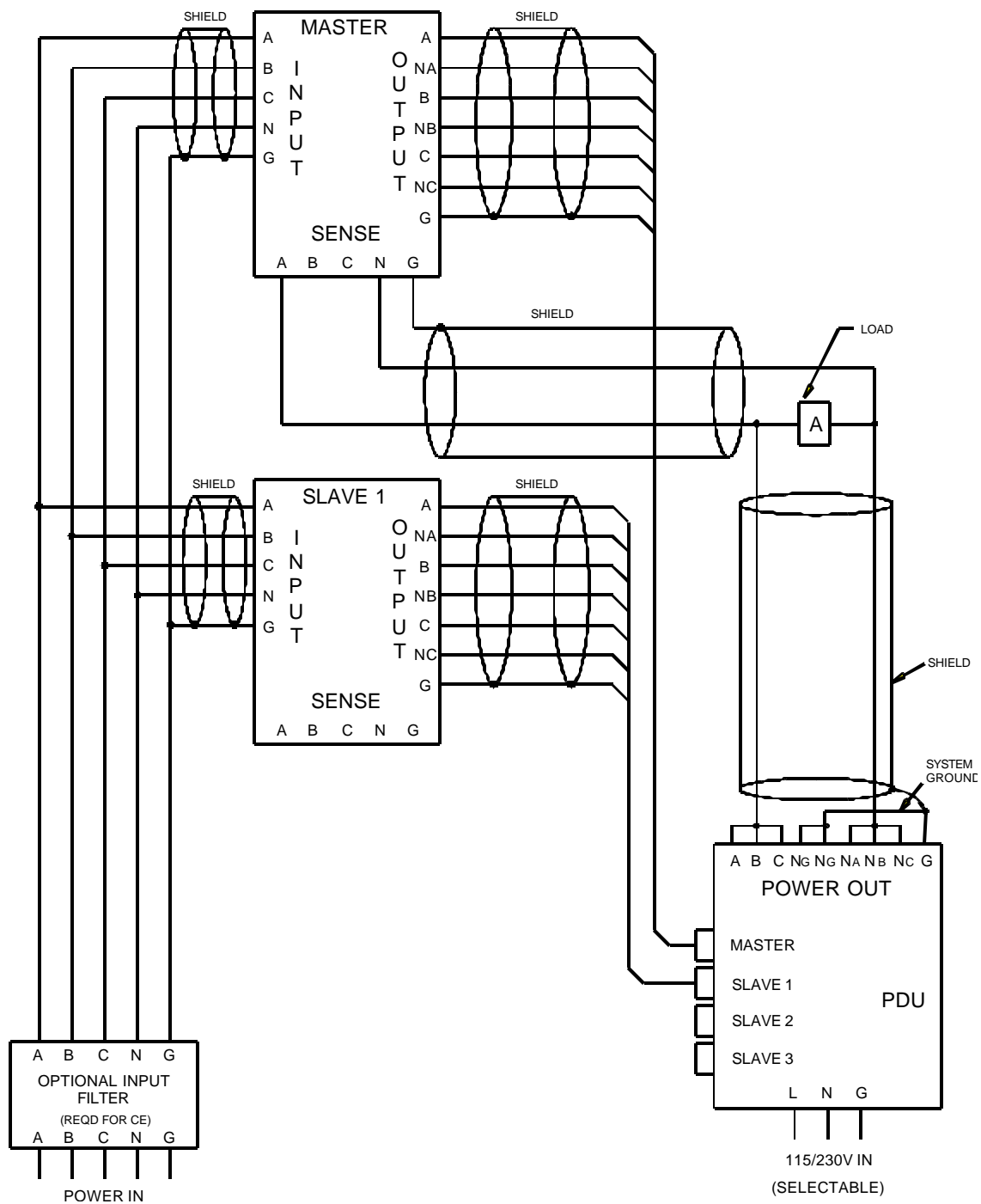
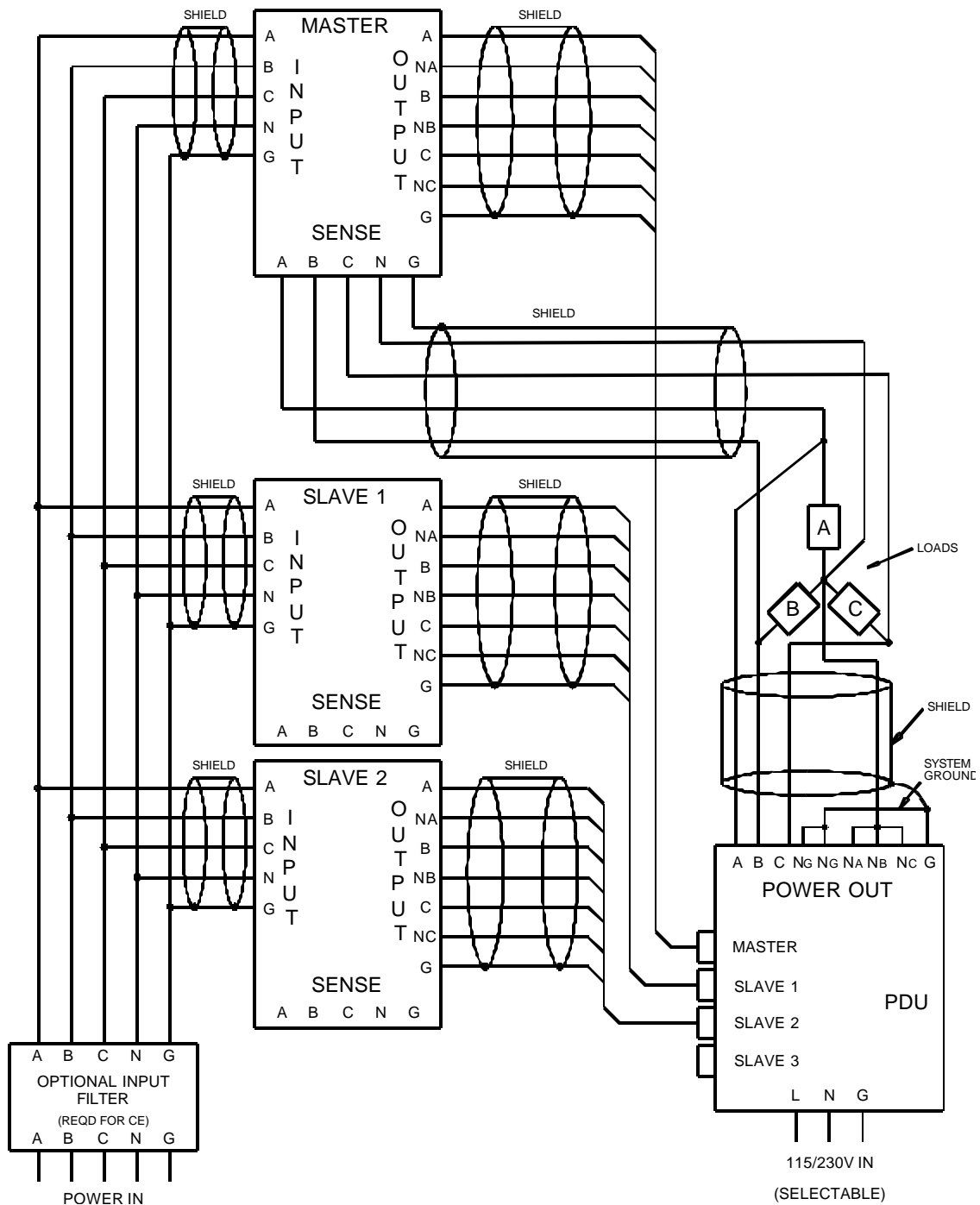
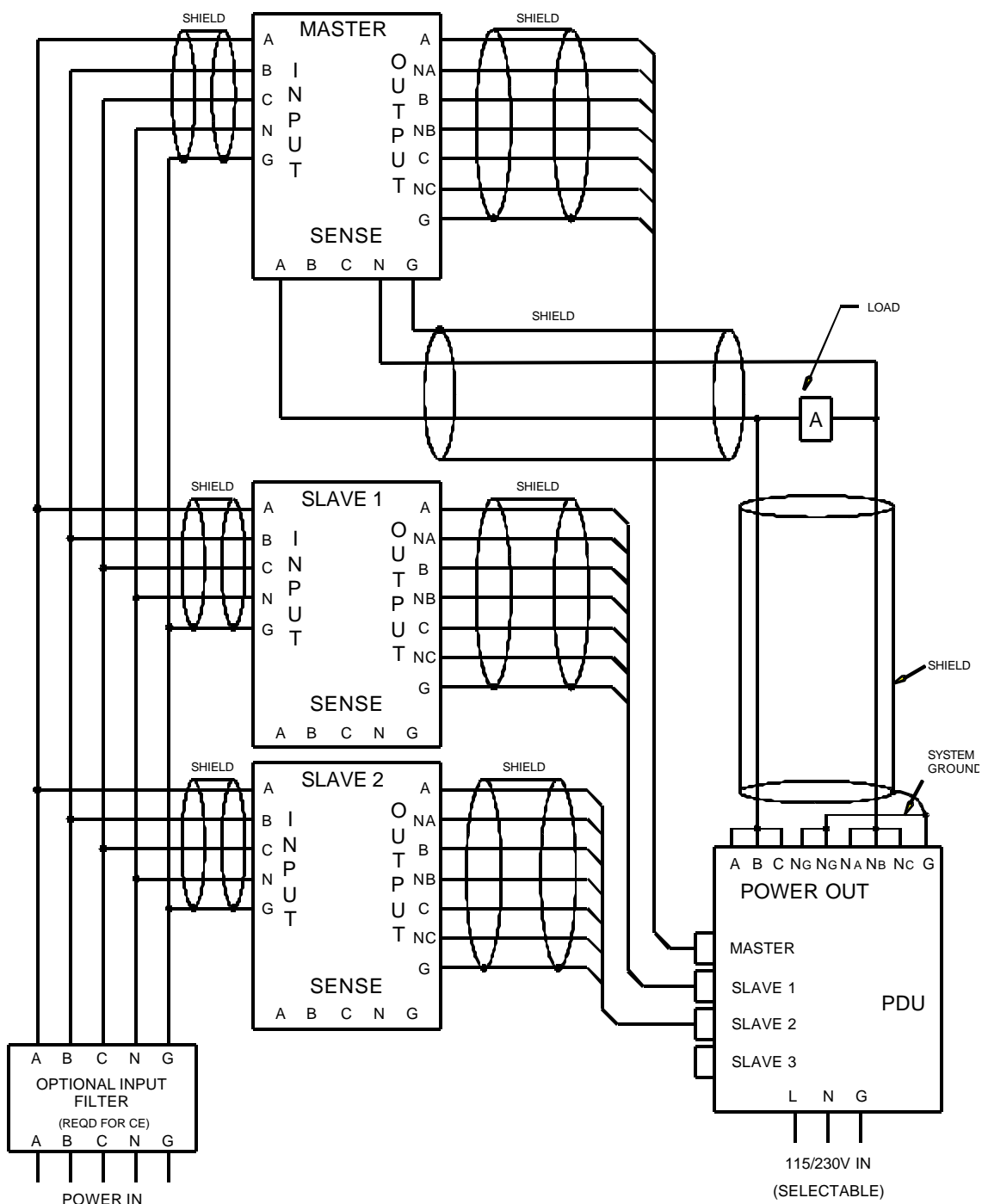
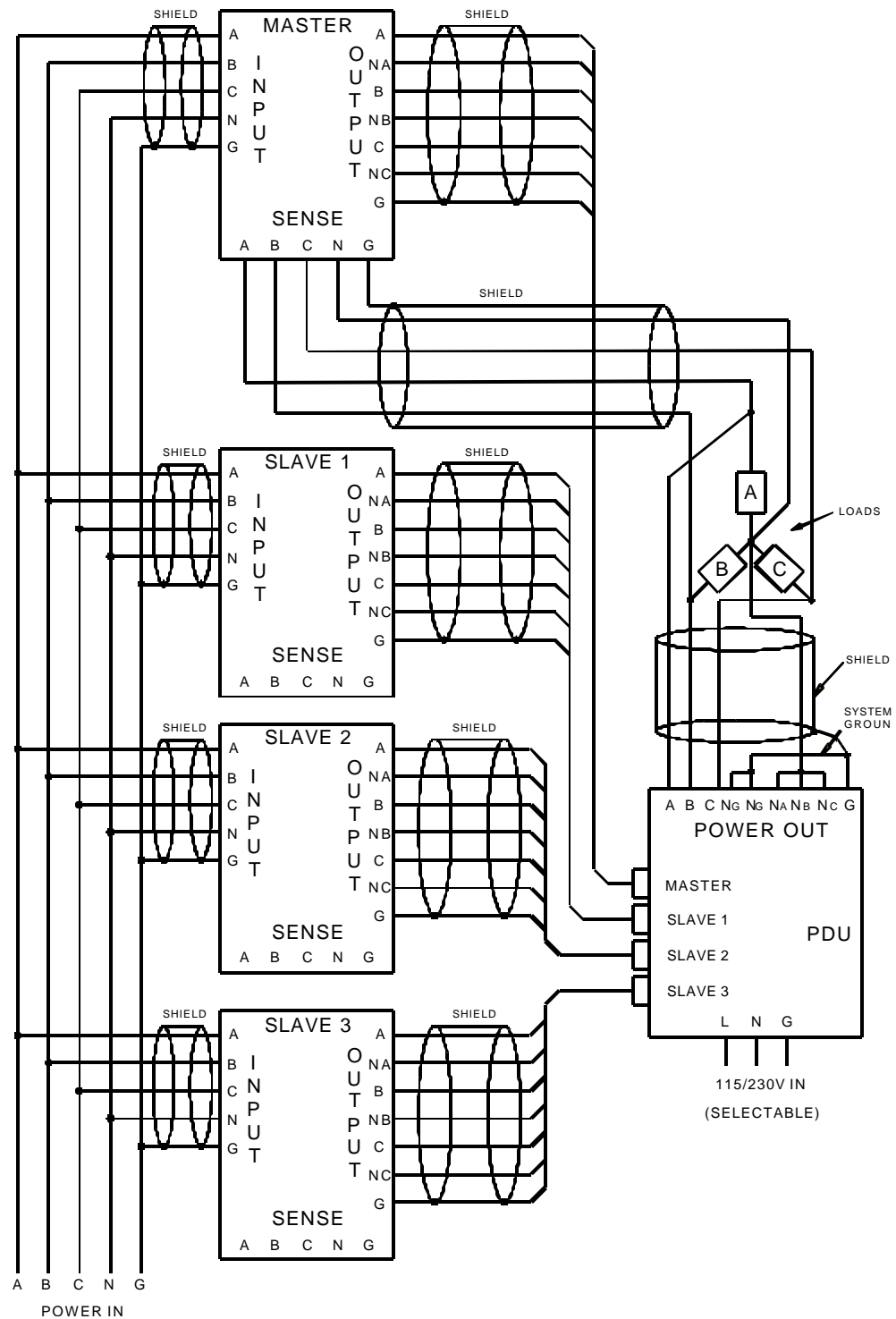


FIGURE 2-12 WIRING FOR SW 10500: 1-PHASE LOAD

**FIGURE 2-13 WIRING FOR SW 15750: 3-PHASE LOAD**



**FIGURE 2-15 WIRING FOR SW 21000: 3-PHASE LOAD**

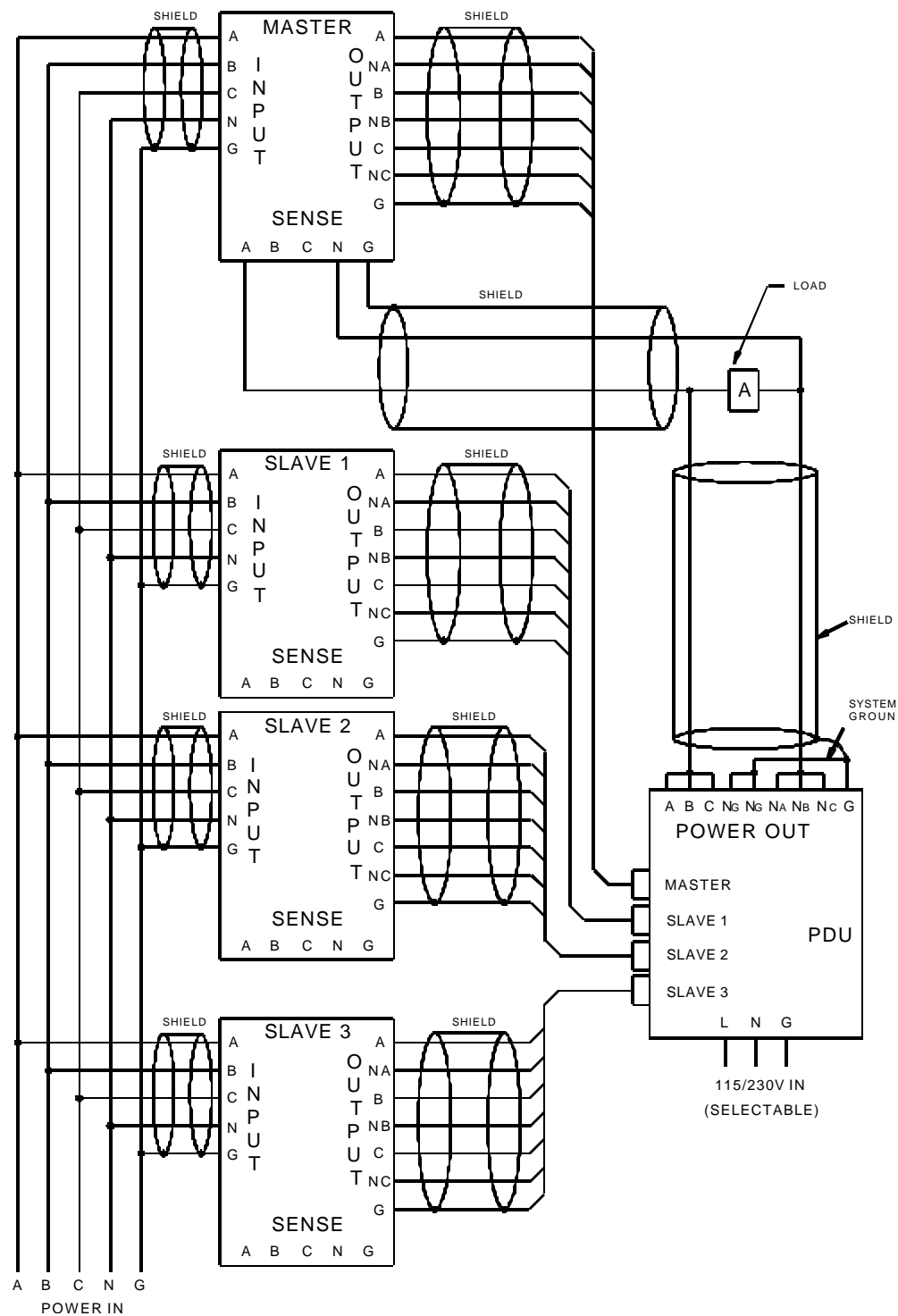


FIGURE 2-16 WIRING FOR SW 21000: 1-PHASE LOAD

SECTION 3 – OPERATION

3.1 INTRODUCTION

Operating procedures for the SW 10500, SW 15750, and SW 21000 are identical to those for the standard SW 5250A; the only difference is the VA capacity of the SW 10500, SW 15750, and SW 21000 is two, three, and four times greater (respectively) than for the SW 5250A. Refer to the main manual for detailed operation information.

3.2 POWER ON SEQUENCE

When powering on the system, turn on the front panel power ON switches in the following sequence: first turn on the PDU, then all SW 5250S slave chassis, and finally the SW 5250M master chassis.

If this sequence is not followed, a fault will be detected and a fault message will be displayed. To clear the fault, press <ENTER>, then continue the setup process.

3.3 SLAVE CHASSIS INDICATORS

The slave chassis has two indicators, POWER ON and FAULT. If a slave detects a fault in its own chassis, its FAULT LED will illuminate and it will send a message to the master via the slave cable.

The master will open all output relays when a fault is detected, and send an error message to the display. It will also reset the slave fault.

Slave faults are limited to a subset of the system master faults. Fault handling is the same for all slave faults.

If at any time during operation power to the master is lost or turned off, the FAULT LED on the front panel of the slave chassis will illuminate and /or the slave chassis will shut down. IF shutdown occurs, power to the entire system will have to be re-cycled via the front panel switches (refer to section 3.2 POWER ON SEQUENCE)

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